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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10761,407	01/22/2004	Masahiro Fujiwara	Q79228	3317
23373	7590	03/24/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			LE, HOA T	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,407

Applicant(s)

FUJIWARA ET AL.

Examiner

H. T. Le

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 8,9 and 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/421,697.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Jan, '04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-7 and 10, drawn to mesoporous material, classified in class 428, subclass 402.

II. Claims 8, 9 and 11-13, drawn to a method, classified in class 427, subclass 212.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a materially different process such as surface-modifying the mesoporous material by dispersing the material in a solution containing the surfactant.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Applicants' Representative, ms. Sang Liu, on March 17, 2005, a provisional election was made with traverse to prosecute the invention of group I, claims 1-7 and 10. Affirmation of this election must be made by applicant in

replying to this Office action. Claims 8, 9 and 11-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Orman*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-5 are provisionally rejected under the judicially created doctrine of double patenting over claims 1, 3 and 5 of copending Application No. 10/421,697. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: a mesoporous inorganic material (the inorganic material including silica) having pores wherein the pores have a functional group capable of responsive to external stimulus including light.

8. Claims 6, 7 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3 and 5 of copending Application No. 10/421,697 in view of WEI ((WO 99/36357)).*

The WEI patent discloses a mesoporous material comprising pores capable of immobilizing biologically active agent therein. Therefore, it would have been obvious to immobilize biologically active agent as taught in the WEI patent in order to apply the claimed mesoporous material in the biological system.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

* Copy of this reference has been provided by Applicants in the parent application 10/421,697.

10. Claims 1, 3-5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Fowler et al, "Covalent coupling of an organic chromophore into functionalized MCM-41 mesophases by template-directed co-condensation" ("Fowler article").

Claims 1, 6 and 10: The Fowler article teaches a mesoporous inorganic (i.e. silica) material having monodimensional (channel-like) pores, the entrance (i.e. wall surface) of the pores is filled with reactive functional groups (i.e. groups that are capable of chemical reaction upon external stimulus). See Fowler article, p. 1825, left column, first paragraph and third paragraph; and right column, first paragraph where "channel-like mesopores" are described. Claims 3-5: See Fowler article, p. 1825, left column, third paragraph. The functional groups disclosed here are responsive to light (allyl group) or to magnetism (silane), are polymerizable (alkyl, aryl, allyl) or crosslinkable/curable (thiol, amino, epoxy)...

11. Claims 1-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Asefa et al, "Periodic mesoporous organosilicas with organic groups inside the channel walls" ("The Asefa article").

Claims 1, 6 and 10: The Asefa article teaches mesoporous inorganic material comprising channel walls (i.e. one-dimensional pores) having reactive functional groups attached and/or filled therein. See Asefa, p. 867, right column.

Claim 2: See p. 867, right column, first 10 lines.

Claims 3-4: See the entire article. In particular, see p. 867, right column, first paragraph, lines 20-26 where the functional groups are described to be "readily accessible for chemical reaction".

Claim 5: The functional groups include an unsaturated group (i.e. ethene) and a silane group.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Fowler or the Asefa article as applied to claims 1-5 above, and further in view of WEI et al WEI (WO 99/36357).

The WEI patent discloses a mesoporous material comprising pores capable of immobilizing biologically active agent therein. However, the WEI patent does not teach functionalizing the mesoporous material for controlling the immobilization of the biologically active agent. The Fowler and the Asefa articles each teach functionalization of mesoporous material by attaching functional groups on the pore surface of the mesoporous material as discussed above. Therefore, it would have been obvious to one having ordinary skill in the art to further functionalize the mesoporous material taught in the WEI patent in order to regulate the immobilizing and/or releasing rate of the biologically active agent.

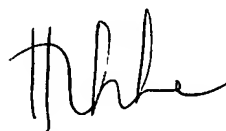
14. References not relied^{upon} are cited as art of interest.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 10:00 a.m. to 6:30 p.m., Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



H. T. Le
Primary Examiner
Art Unit 1773